

Application No.: 09/759,257

Docket No.: 20402-00620-US

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A solid state imaging apparatus comprising:
an image pickup means for alternately outputting two kinds of video signals within a period of field, said two kinds of video signals being a long-term exposure signal having a long exposure time and a short-term exposure signal having a short exposure time, and
a mixing means for mixing said long-term exposure signal and said short-term exposure signal at a predetermined ~~brightness~~ mixing level, and
~~wherein a setting means is provided for independently setting a gain and a knee point for each of said long-term exposure signal and said short-term exposure signal,~~
wherein said setting means sets a knee point of said short-term exposure signal to a level higher than said mixing level of said long-term exposure signal and said short-term exposure signal.

2. (Currently Amended) The solid state imaging apparatus in accordance with claim 1, ~~wherein said setting means for independently setting the gain and the knee point for each of said long-term exposure signal and said short-term exposure signal comprises:~~
a long-term/short-term discrimination pulse generator which generates a signal discriminating between a period for said long-term exposure signal and a period for said short-term exposure signal; and
~~a gain setting means for setting a gain; and~~
a knee point setting means for setting a knee point,
~~wherein a set value for the gain of said gain setting means and a set value for the knee point of said knee point setting means are respectively~~ is selected based on the discrimination signal generated from said long-term/short-term discrimination pulse generator, thereby independently setting ~~the gain and the knee point for each of said long-term exposure signal and said short-term exposure signal~~ in such a manner that a knee point of said short-term exposure signal is set to a level higher than said mixing level of said long-term exposure signal and said short-term exposure signal.

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3. (Currently Amended) The solid state imaging apparatus in accordance with claim 1, further comprising:

a means for detecting an average brightness value of said short-term exposure signal to judge if an image picked-up object requires a dynamic range, and

a microcomputer for performing an algorithm which is used to calculate said gain and said knee point based said detected average brightness value of said short-term exposure signal.

4. (New) The solid state imaging apparatus in accordance with claim 1, wherein said setting means further sets a knee point of said long-term exposure signal to a level lower than said mixing level of said long-term exposure signal and said short-term exposure signal.

5. (New) The solid state imaging apparatus in accordance with claim 2, wherein said setting means further comprises a gain setting means for setting a gain;

wherein a set value for the gain of said gain setting means is selected based on the discrimination signal generated from said long-term/short-term discrimination pulse generator, thereby independently setting the gain for each of said long-term exposure signal and said short-term exposure signal.

6. (New) A solid state imaging apparatus comprising:

an image pickup means for alternately outputting two kinds of video signals within a period of field, said two kinds of video signals being a long-term exposure signal having a long exposure time and a short-term exposure signal having a short exposure time,

a gain control means and a knee point control means provided for independently controlling a gain and a knee point of said two kinds of video signals, and

a mixing means for receiving said two kinds of video signals being adjusted in the gain and the knee point by said gain control means and said knee point control means, and mixing said long-term exposure signal and said short-term exposure signal at a predetermined mixing level,

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wherein said knee point control means sets a knee point of said short-term exposure signal to a level higher than said mixing level of said long-term exposure signal and said short-term exposure signal.

7. (New) The solid state imaging apparatus in accordance with claim 6, wherein said knee point control means further sets a knee point of said long-term exposure signal to a level lower than said mixing level of said long-term exposure signal and said short-term exposure signal.